



U.S. Department of the Interior

BLM

America's Priceless Heritage: Cultural and Fossil Resources on Public Lands

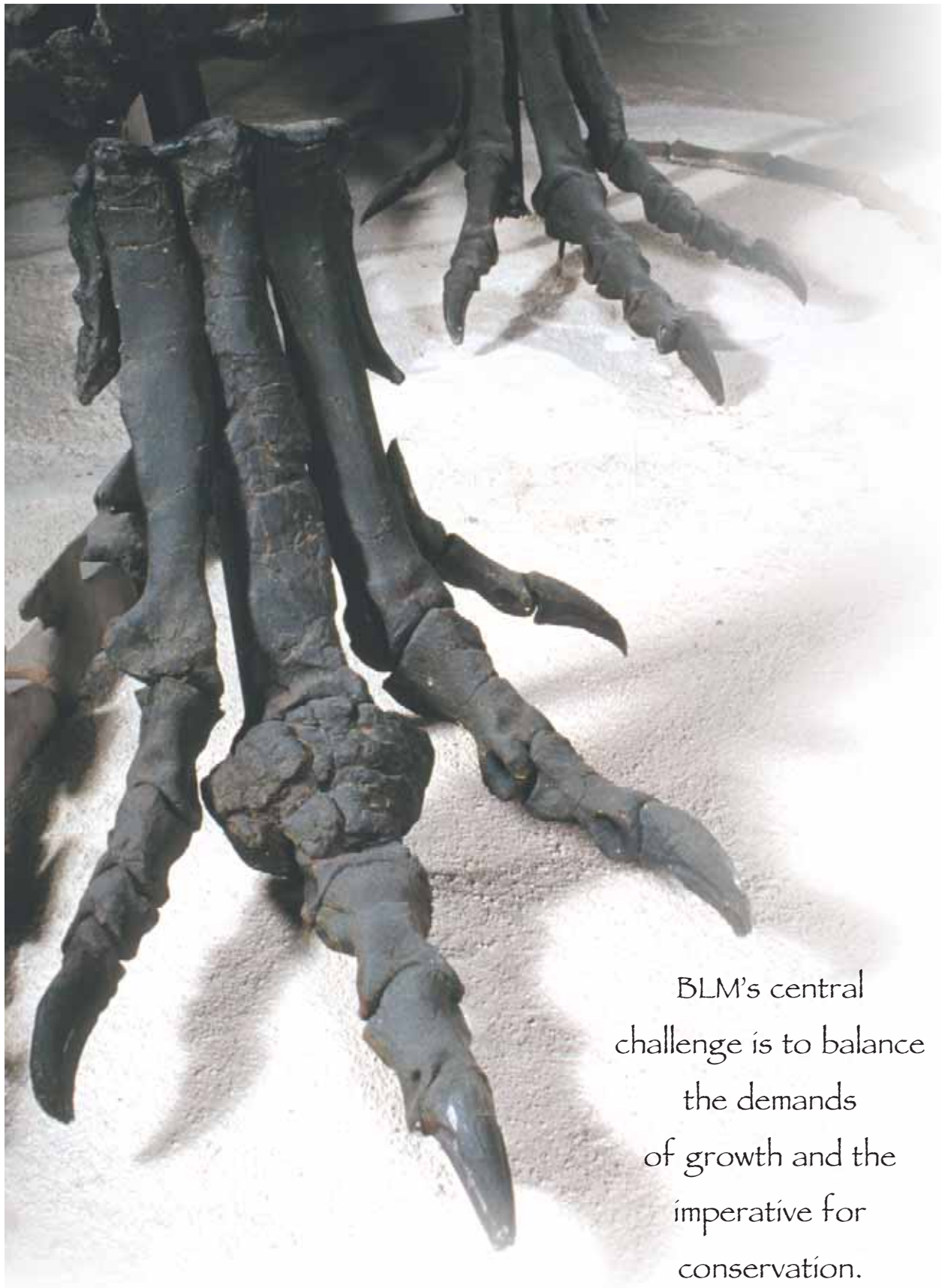
Colorado
November 2003

America's Priceless Heritage:

Cultural and Fossil Resources on Public Lands



**U.S. Department of the Interior
Bureau of Land Management
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Preface:

An Invitation to the Reader

The Bureau of Land Management (BLM) is responsible for managing 261 million acres of public land—about one-eighth of the United States. Most of these lands are in the Western United States, including Alaska, and they include extensive grasslands, forests, high mountains, arctic tundra, and deserts. BLM also manages about 700 million acres of subsurface mineral resources, as well as numerous other resources, such as timber, forage, wild horse and burro populations, fish and wildlife habitat, wilderness areas, and archaeological, historical, and paleontological sites.

BLM administers the public lands within the framework of numerous laws, the most comprehensive of which is the Federal Land Policy and Management Act of 1976 (FLPMA). FLPMA directs BLM to follow the principle of “multiple use,” which means managing the public lands and their various resource values “so that they are utilized in the combination that will best meet the present and future needs of the American people.” This multiple use mission requires BLM to address quality of life issues, including providing clean air and water; providing recreational opportunities; protecting wildlife; and safeguarding cultural and fossil resources; as well as providing for a sound economy through the production of energy, food, and fiber and by sustaining local communities and their heritage.

Given the scope of its multiple use mission, BLM affects more Americans on a daily basis than any other land management agency. The Bureau constantly faces the challenge of ensuring a balance of land uses among perspectives that are occasionally, if not often, competing. BLM recognizes that people who live near the public lands have the most direct connection and knowledge of them, as well as a commitment to their stewardship. At the same time, the Bureau maintains a national focus because these lands belong to all Americans, whose appreciation of them continues to increase.

BLM’s central challenge is to *balance the demands of growth and the imperative for conservation*. America is entering into a new era of conservation to achieve a healthier environment and a more secure economy—what Secretary of the Interior Gale Norton





calls the “new environmentalism.” Secretary Norton sums this new environmentalism up in a visionary approach she calls the “four Cs”—using communication, cooperation, and consultation, all in the service of conservation. At the heart of the four Cs is the Secretary’s belief that for conservation to be successful, BLM must involve the people who live on, work on, and love the land.

The Bureau’s ability to partner with public land users; local residents; nonprofit groups; universities; “friends of” organizations; and State, local, and tribal governments fosters a wide and diverse support network. This network is essential not only because the agency has limited staff and budget resources, but because there is a wide variety of stakeholders who are concerned about public land management. The Bureau has been working cooperatively with partners and volunteers for decades and that work has yielded outstanding results towards attaining common goals and values.

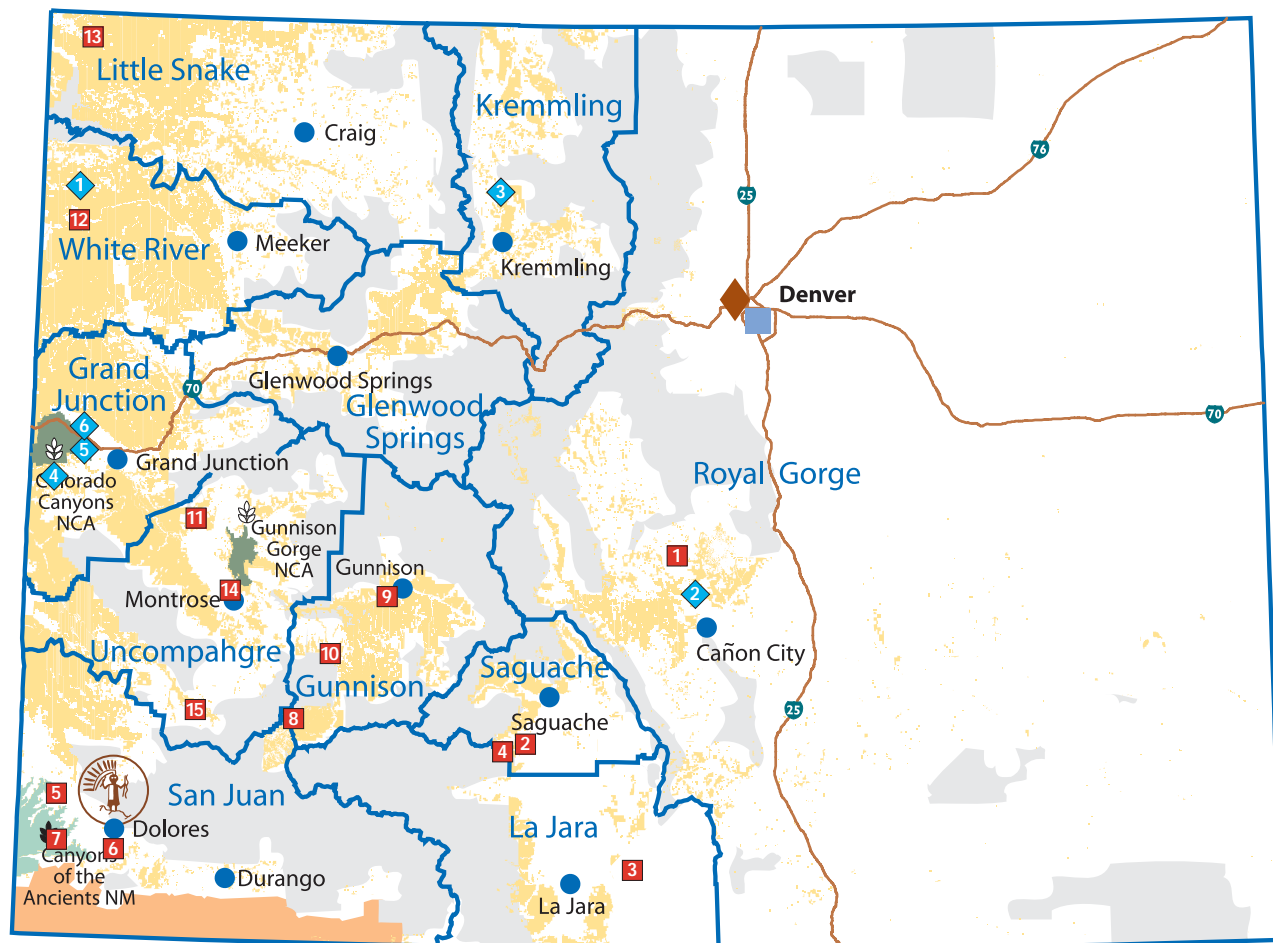
Secretary Norton’s approach to conservation is especially relevant to the management of cultural and fossil resources on public lands. These resources are a constant source of fascination for visitors. People look to these resources for recreational opportunities...for fulfilling their curiosity about the recent and remote past...for contemplating their origins...for preserving and continuing their cultures...for finding peace and quiet. The Secretary’s approach to managing these resources was furthered on March 3, 2003, when President Bush signed a new Executive Order, which directs Federal agencies to advance the protection, enhancement, and contemporary use of historic properties, particularly by seeking public-private partnerships to promote the use of such properties as a stimulus to local economic development. The Executive Order is an important component in a new White House initiative called *Preserve America*, which was announced on March 3, 2003 by First Lady Laura Bush. The *Preserve America* program will serve as a focal point for the support of the preservation, use, and enjoyment of America’s historic places.











The Bureau is proud of its mission and understands why it is crucial to the Nation’s future. The Bureau’s vision is to live up to this ambitious mission and thereby meet the needs of the lands and our people. In order to achieve this goal, the Bureau must seek new ways of managing that include innovative partnerships and, especially, a community-based focus that

involves citizen stakeholders and governmental partners who care about the public lands and the cultural and fossil resources found on them. This document is an invitation to you—the public BLM serves—to continue your ongoing dialogue with us about the health and future of the Nation's cultural and natural legacy. Tell us what is important to you, what you care most about, what you want saved, and how BLM can work collaboratively to preserve our priceless legacy.

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-  BLM-managed lands
-  BLM-managed mineral acreage underlying other surface acreage (excluding National Park Service and Fish and Wildlife Service units)
-  BLM National Monument
-  BLM National Conservation, Recreation, and Protection Areas (National Conservation Areas, National Recreation Areas, Outstanding Natural Areas, and Cooperative Management and Protection Areas)
-  Tribal lands where the BLM has trust responsibility for mineral operations
-  BLM State Office
-  BLM Field Offices
-  BLM Field Office Boundaries
-  Major Highways
-  Anasazi Heritage Center

Interpreted Cultural Sites

- | | | |
|--|--|--|
| 1 Gold Belt Tour Scenic Byway | 6 Escalante Pueblo and Dominguez Pueblo | 11 Well's Gulch Historic Roadway |
| 2 Penitente Canyon | 7 Sand Canyon Pueblo | 12 Canyon Pintado Historic District |
| 3 Los Caminos Antiguos Scenic Byway | 8 Alpine Loop Backcountry Byway | 13 Irish Canyon |
| 4 Old Spanish National Historic Trail | 9 Spencer School | 14 Dry Creek Petroglyphs |
| 5 Lowry Pueblo | 10 Carr Ranch | 15 Fall Creek Tram |

Interpreted Paleo Sites

- 1** Dinosaur Diamond Byway
- 2** Garden Park Fossil Area
- 3** Kremmling Cretaceous Ammonite Locality
- 4** Rabbit Valley Trail Through Time
- 5** Fruita Paleo Area
- 6** Dinosaur Hill Interpretive Trail



COLORADO

Statistical Overview

Acres of public land	8.4 million acres
Acres inventoried for cultural properties (FY 2002)	45,788 acres
Acres inventoried for cultural resources (to date)	1,317,626 acres
Cultural properties recorded (FY 2002)	1,482 properties
Cultural properties recorded (to date)	35,653 properties
Cultural Resource Use Permits in effect (FY 2002)	67 permits
National Register of Historic Places listings (to date)	21 listings
National Register of Historic Places contributing properties	209 properties
Section 106 class III undertakings (FY 2002)	473 undertakings
Section 106 data recovery, projects (FY 2002)	14 projects
Section 106 data recovery, properties (FY 2002)	33 properties
Interpreted places	21 places

Cultural Resources

1. Program Summary

In Colorado, BLM manages over 8 million acres statewide. More than 1.3 million acres have been inventoried for cultural resources and over 35,000 sites have been recorded. The cultural program has a professional staff of 22 archaeologists, 1 regional paleontologist, 1 regional historian, 2 museum specialists, and 1 curator. The Anasazi Heritage Center, one of two Bureau repositories/museums, holds about 3 million objects from the Southwest.

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An aerial view of the Anasazi Heritage Center.



The Canyon of the Ancients National Monument.

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Areas of Critical Environmental Concern, comprising 42,997 acres, were designated entirely or partly to provide special management attention to protect paleontological and cultural resources. Two National Conservation Areas, Gunnison Gorge and Colorado Canyons, contain numerous significant cultural properties, including Howell Village, and significant locations of dinosaur fossils. The Canyon of the Ancients National Monument was designated in 2000, providing special protection and recognition for about 164,000 acres of BLM-administered lands containing one of the highest known densities of archaeological sites in the American Southwest. Archaeological and historic resources such as cliff dwellings, villages, great kivas, shrines, sacred springs, agricultural fields, check dams, reservoirs, rock art sites, and sweat lodges are spread across the monument's landscape.

2. State Cultural History

Knowledge of Colorado's first inhabitants is limited, though archaeology shows that Paleo-Indians roamed Colorado's plains and mountains by 9500 B.C. By 6000 B.C., the Archaic period brought new hunting-gathering ways of life to the region, as small, mobile human groups adapted to changing environmental conditions. This way of life lasted thousands of years. Toward the end of this era, horticulture complemented hunting and foraging in many regions and distinct regional cultures appeared.

The Late Prehistoric era began about A.D. 150, with the introduction of the bow and arrow and ceramics. Farming, sedentism, and the population also increased during this time. In southeastern Colorado, people following the Plains Village tradition inhabited the upper tributaries of the Arkansas River. In the northwest, Fremont tradition people practiced both agriculture and foraging until they were replaced or absorbed by Numic-speaking hunter-gatherers from the Great Basin about A.D. 1100. The people of the Colorado Plateau in southwestern Colorado followed the Anasazi-Pueblo way of life, with intensive farming practices and multistory masonry pueblos in dense towns. This region was depopulated and abandoned in the late A.D. 1200s.

By the Protohistoric era, from about A.D. 1400 to A.D. 1700, sparse bands of hunters and gatherers roamed central-western and northwestern Colorado. These groups included the Numic-speaking Utes, Paiutes, Shoshones, and Comanches. Athapaskan speakers, whose modern-day descendants are the Navajos and

Apaches, lived in the Plains and were later followed by the Comanche, Arapahoe, and Cheyenne. Following conflicts with Euro-Americans in the 19th century, most of the surviving indigenous people of Colorado lived on trust lands set aside by the U.S. Government.

The Spanish first entered Colorado between 1664–1689, though no Spanish settlements are known from this early period. In the early 1800s, fur trappers and traders worked along the Arkansas and Platte Rivers. Following the Mexican War in 1848, the area became American territory. The discovery of gold in the Pikes Peak area spawned a gold rush in 1859, which brought the first large Euro-American population to settle in Colorado.

Euro-American settlement rapidly followed, especially after Indians were removed to reservations and the railroad came through the State. Agricultural settlement expanded after the Homestead Act of 1862, creating a late 19th century demand for water and a need for large water delivery systems funded by corporations.

Cattle ranching became a significant industry in the late 19th century. Cattle ranchers feuded with farmers over fencing the range and with sheepherders over ruining grazing land. These conflicts came to a head in the late 1880s and 1890s on the western slope. This cultural conflict lasted until 1920, when the cattle industry declined as an economic force.

The late 19th century was a time of growth and urbanization in Colorado. Mining continued to be a prominent industry into the 20th century to meet the demand for iron ore and coal and the demand for tungsten, vanadium, and molybdenum during World War I. Tourism and natural-resource-related activities became increasingly important and remain so today.

3. Cultural Resources At Risk

Prehistoric and historic sites on BLM lands in Colorado are at risk for many reasons, some human-related, others the result of natural events. Many open-air, prehistoric sites are eroding as a result of wildfires. Lowry National Historic Landmark is threatened by natural deterioration as well as overuse. Rock shelters statewide are being disturbed and destroyed by illicit digging. Rock art sites throughout the State are threatened by chalking, deliberate vandalism, and recreational rock climbing. Adobe structures, particularly in southwest Colorado, are collapsing due

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Adobe structures, particularly in southwest Colorado, are collapsing due to wind and water erosion, as well as dispersed recreation.



Adobe wall ruins in a shelter bluff in Canyon of the Ancients National Monument.

to wind and water erosion, as well as dispersed recreation. An example is the McIntire Ranch, home of the ninth Governor of Colorado, which is collapsing from neglect. Yet other areas, such as the Cripple Creek National Historic Landmark, are having their natural setting and structures damaged and destroyed by development. Off-highway vehicle use is damaging archaeological resources. Road maintenance is exposing buried prehistoric sites, which are subject to erosion. Historic mining structures are being destroyed by exposure, wildfire, and vandalism.

4. Major Accomplishments

- Sponsored ongoing Paleo-Indian research and geophysical studies of cultural and paleontological resources in Middle Park with the University of Wyoming, in South Park with the University of Northern Colorado, in Gunnison Basin with Utah State University, in northwest Colorado with the Archeological Research Institute, and in the Great Sand Dunes with the Smithsonian Institution.
- Implemented an award-winning site stabilization and restoration program; stabilized historic mining structures, including the Sound Democrat Stamp Mill, Animas Forks townsite, Calamity Camp, Fall Creek Tram, San Juan Mining District, and the Cripple Creek and Victor gold mining areas; conserved earthen architecture in the Sand Canyon Cultural Resource Emphasis Area, Escalante Pueblo, and Lowry Pueblo National Historic Landmark.
- Opened interpretive facilities at the Canyon Pintado National Historic District and along the Alpine Loop Backcountry Byway; produced an interactive CD-ROM of the Lowry Pueblo and completed interpretive improvements at the site; created a network of volunteers dedicated to preserving cultural resources on Federal lands in the San Luis Valley; installed an interactive computer-based exhibit at the Anasazi Heritage Center created by students at the Santa Fe Indian School; and sponsored the Colorado Anti-Vandalism Task Force and Colorado Historic Preservation Week.
- Received two Save America's Treasures grants to restore collections at the Anasazi Heritage Center and to restore structures in the San Juan Mining District.

- Assisted the Ute Tribe and the U.S. Forest Service in recording a historic Ute trail and associated sacred sites.

5. Ethnic, Tribal, and Other Groups to Whom BLM Cultural Resources Are Important

There are numerous types of sites that are of interest to Native Americans, including archaeological sites and culturally significant landscape features. Interested tribes include the Southern Ute, Ute Mountain Ute, and Northern Ute (Uintah and Ouray Ute), who were the permanent residents in Colorado until their removal from the Colorado Basin in the 1880s to reservations in southern Colorado and northeastern Utah. Other potentially affiliated tribes with a more transitory use of lands in Colorado include the Eastern Shoshone, Northern Arapaho, Comanche, and Hopi in the Northern Colorado Basin; the Acoma, Cochiti, Hopi, Isleta, Jemez, Jicarilla Apache, Laguna, Nambe, Navajo, Picuris, Pojoaque, San Felipe, San Ildefonso, San Juan, San Juan Southern Paiute, Sandia, Santa Ana, Santa Clara, Santo Domingo, Taos, Tesuque, Zia, and Zuni in the Southern Colorado Basin; the Hopi, Jicarilla Apache, Navajo, All Indian Pueblo Council, Five Sandoval Indian Pueblos, Ten Southern Pueblo Governors Council, and Eight Northern Indian Pueblo Council in the Rio Grande Basin; and the Jicarilla Apache, Comanche, Cheyenne, Arapaho, Kiowa and Kiowa-Apache in the Arkansas River Basin.

Other ethnic groups with a cultural affiliation to historic resources and landscapes have not been systematically identified through ethnohistoric studies or public scoping. The Hispanic community, particularly in the San Luis Valley, has traditional ties to shrines, rock art locations, ranches, and shepherd camps. Descendants of immigrants from south-central and southeastern Europe (Italians, Austrians, Croats, Serbs, Slovenes), where the majority of laborers were from, may feel that mining-related cultural resources have traditional significance. The Anglo-American population may have interest in cultural resources related to the agriculture, ranching, and mining industries. The Mormon community likely has an interest in cultural resources along the Mormon Trail and nearby settlements. The Japanese-American community, particularly in the Front Range, has an interest in World War II internment camps. The Basque community located along the western slope is closely tied to sheepherding.



A historic kiln in the Henson Creek area of Hinsdale County, Colorado.

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The Capitol City charcoal kiln in Hinsdale County, Colorado.

The Colorado Historical Society oversees the State Historic Preservation Fund, which has provided about \$75 million for historic preservation projects statewide since 1993.

6. Existing Partnerships

The Colorado Historical Society oversees the State Historic Preservation Fund, which has provided about \$75 million for historic preservation projects statewide since 1993. The BLM has been awarded over \$730,000 and has used these funds to support partnerships.

- University of Colorado and the Museum of Western Colorado to curate archaeological and paleontological collections and records.
- State Historic Preservation Office and the Colorado Historical Society to automate cultural resource data.
- Colorado Archaeological Society for Colorado Archaeology and Historic Preservation Week.
- Friends of Canyon Pintado to protect and interpret rock art at the Canyon Pintado National Historic District.
- Western State College for Paleo-Indian research at the Chance Gulch site.
- University of Wyoming and the Colorado School of Mines to conduct Paleo-Indian research in Middle Park.
- University of Nevada-Reno, Durango Archaeological Consultants, and the Colorado Historical Society for historic mining research.

7. Economic Benefits

BLM's Recreation Management Information System contains visitor use data for fiscal year 2002 for the following six cultural sites: Gold Belt Tour Scenic Byway (691,483 visits); Canyon Pintado National Historic District (4,990 visits); Alpine Loop Backcountry Byway (583,236 visits); Lowry Pueblo (49,244 visits); Sand Canyon Pueblo (39,083 visits); and Fall Creek Tram (258 visits). The number of visits total 1,368,294. The economic contribution provided by these six sites alone can be estimated at more than \$44,000,000, using an average per day expenditure for Colorado visitors of \$81 and assuming that 40 percent of the visitors are nonlocal residents or are from out of State.

Paleontological Resources

1. Program Summary

Twenty-eight Paleontological Resource Use Permits are active on the 8.4 million acres of public land administered by BLM in Colorado. Colorado has several interpreted sites that feature various kinds of fossils and other sites under special management prescriptions. These include the Kremmling Cretaceous Ammonite Locality, Garden Park Fossil Area, Dinosaur Hill and Riggs Hill Trails, and the Rabbit Valley Trail Through Time/Mygatt–Moore Quarry. BLM Colorado has one regional paleontologist, headquartered in the Grand Junction Field Office, who provides advice and expertise upon request to Colorado, Alaska, and Eastern States offices.

2. State Paleontological History

The oldest known rocks in Colorado predate 2.5 billion years. Colorado was an ocean bottom about 500 million years ago. Marine invertebrate fossils such as brachiopods, corals, and ammonites are well-documented from this time. Permian-age amphibians and reptiles left their tracks along 250-million-year-old tidal flats in the Lyons Sandstone near Boulder, and fish are found in the marine layers of the Fountain Formation near Colorado Springs. Triassic-age (240- to 210-million-year-old) fish and land vertebrates in southern Colorado show that fresh-water lakes and dry land existed there.

Colorado is famous for exposures of the late Jurassic Morrison Formation found in many areas of the State. Some of the first “bone hunters” in the West collected dinosaur bones—*Allosaurus*, *Apatasaurus*, *Stegosaurus*, and many others—in the Morrison Formation and sent them east for study and exhibit in places like the Carnegie Museum of Natural History in Pittsburgh and the American Museum of Natural History in New York.

Finds in younger formations include bird tracks in the Dakota Formation, dinosaur tracks in Boulder, the remains of familiar Cretaceous dinosaurs like Triceratops, and Paleocene-age (63- to 55-million-year-old) vertebrate fossils from the Denver Formation at Colorado Springs and from Moffat County and Durango. Eocene sediments (55–45 million years old) also

Some of the first “bone hunters” in the West collected dinosaur bones...and sent them east for study and exhibit in places like the Carnegie Museum of the Natural History...



A track from a three-toed carnivorous dinosaur in western Colorado.



The Garden Park Fossil Area is one of three areas in North America where dinosaur fossils were found in 1876.

The fossil resources of Colorado have been collected and studied by paleontologists and hobby collectors alike for over 100 years.

preserve a rich record of primitive mammals, birds, fish, turtles, and other vertebrates in the Raton, Uinta, Sand Wash, and Piceance Creek Basins. By mid-Tertiary times, spreading grasslands supported vast herds of grazing animals such as primitive horses, camels, and rhinoceroses. Many Pleistocene localities document the presence of mammoths, mastodons, musk oxen, horses, camels, and several kinds of carnivores like saber-toothed cats and giant bears.

3. Paleontological Resources at Risk

The fossil resources of Colorado have been collected and studied by paleontologists and hobby collectors alike for over 100 years. Because of the renewed interest in fossils sparked by modern media technology, these resources are vulnerable to many impacts, some beneficial, some harmful. Industrial activities and other ground-disturbing actions create an urgent need to salvage and mitigate impacts to areas that have potentially significant paleontological resources. Unauthorized collection of vertebrate and other forms of important fossils poses a critical danger to the integrity of the data related to the study of past life. In sum, the need to protect our fossil resources on public land has reached a critical stage.

4. Major Accomplishments

- Continued collection of specimens at risk in Garden Park Fossil Area.
- Continued collection of specimens at risk in Rabbit Valley Research Natural Area.
- Continued collection of specimens at risk in Sharrard Park Gas Field.
- Distributed and implemented 12 "Paleontological Resources Teaching Kits."
- Produced brochures, Web sites, and publications on the management of paleontological resources in Colorado.

5. Existing Partnerships

- The University of Colorado and the Museum of Western Colorado to curate paleontological collections and data.

- The Denver Museum of Nature and Science for training of paleontology volunteers.
- The Garden Park Paleontology Society for management of paleontological resources at the Garden Park Fossil Area and for curation and preservation at the Dinosaur Depot Museum.
- The Western Interior Paleontological Society for research and projects to manage fossil insect collections from the Green River Formation.
- Western State College for curation of the “Morris the Saurus” *Apatosaurus* skeleton.
- The Museum of Western Colorado and the City of Fruita for interpretive planning and development for, as well as management of, Dinosaur Hill Trail, Fruita Paleo Research Natural Area, Rabbit Valley Research Natural Area/Trail Through Time/Mygatt–Moore Quarry, and Split Rock Trail.
- A consortium of other Federal agencies, State and local agencies, museums, and travel and tourism bureaus to manage Dinosaur Diamond, a 550-mile highway loop through western Colorado and eastern Utah.

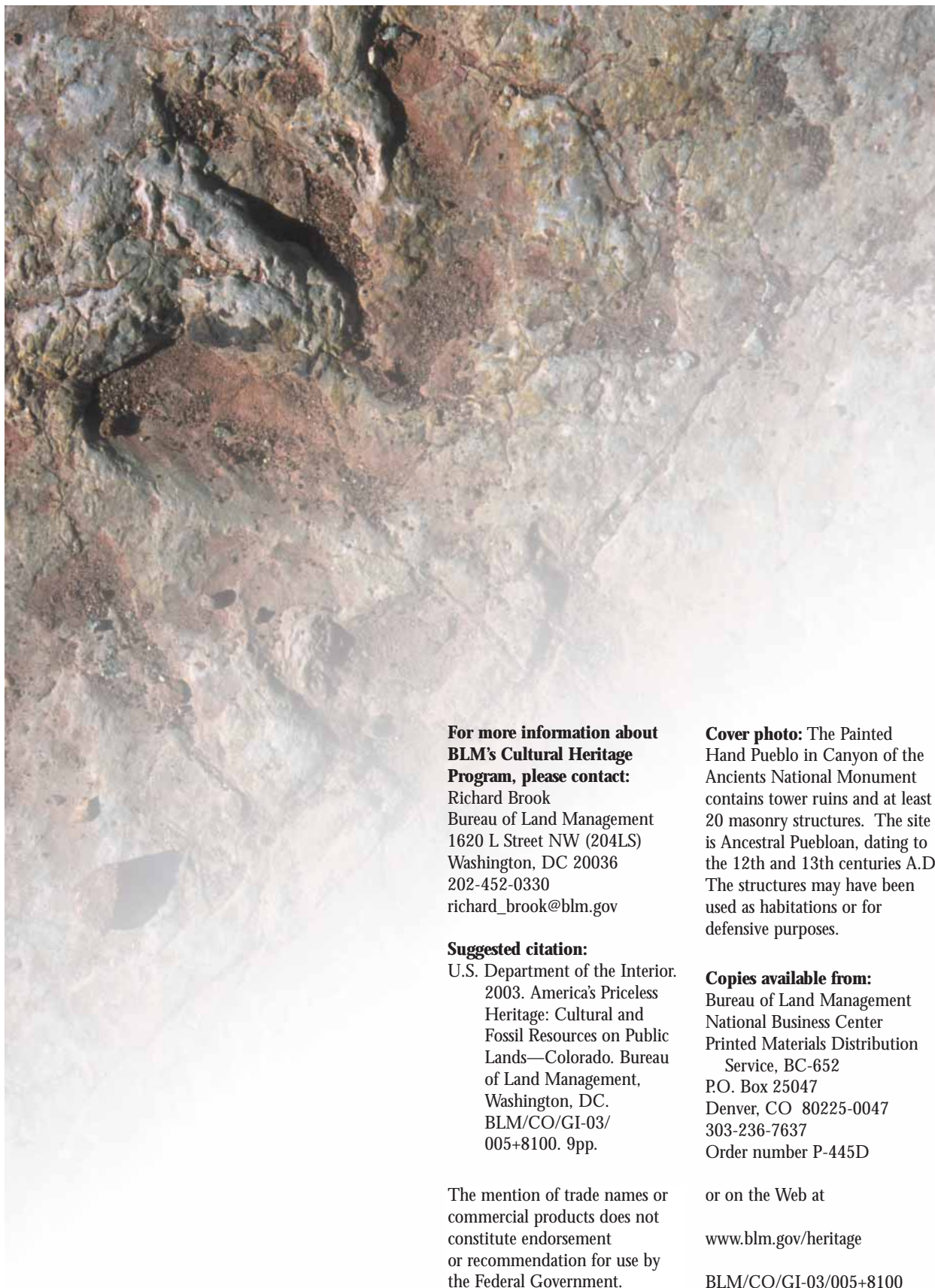
6. Economic Benefits

- There were 544,000 visits to facilities displaying fossils in 1997.
- About 40 percent of visits were by nonlocal or out-of-State visitors.
- An estimated \$64 million was spent on fossil-related tourism in 2000.

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A ribbon-cutting ceremony at the Dinosaur Hill Trail during National Public Lands Day.



**For more information about
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Cover photo: The Painted
Hand Pueblo in Canyon of the
Ancients National Monument
contains tower ruins and at least
20 masonry structures. The site
is Ancestral Puebloan, dating to
the 12th and 13th centuries A.D.
The structures may have been
used as habitations or for
defensive purposes.

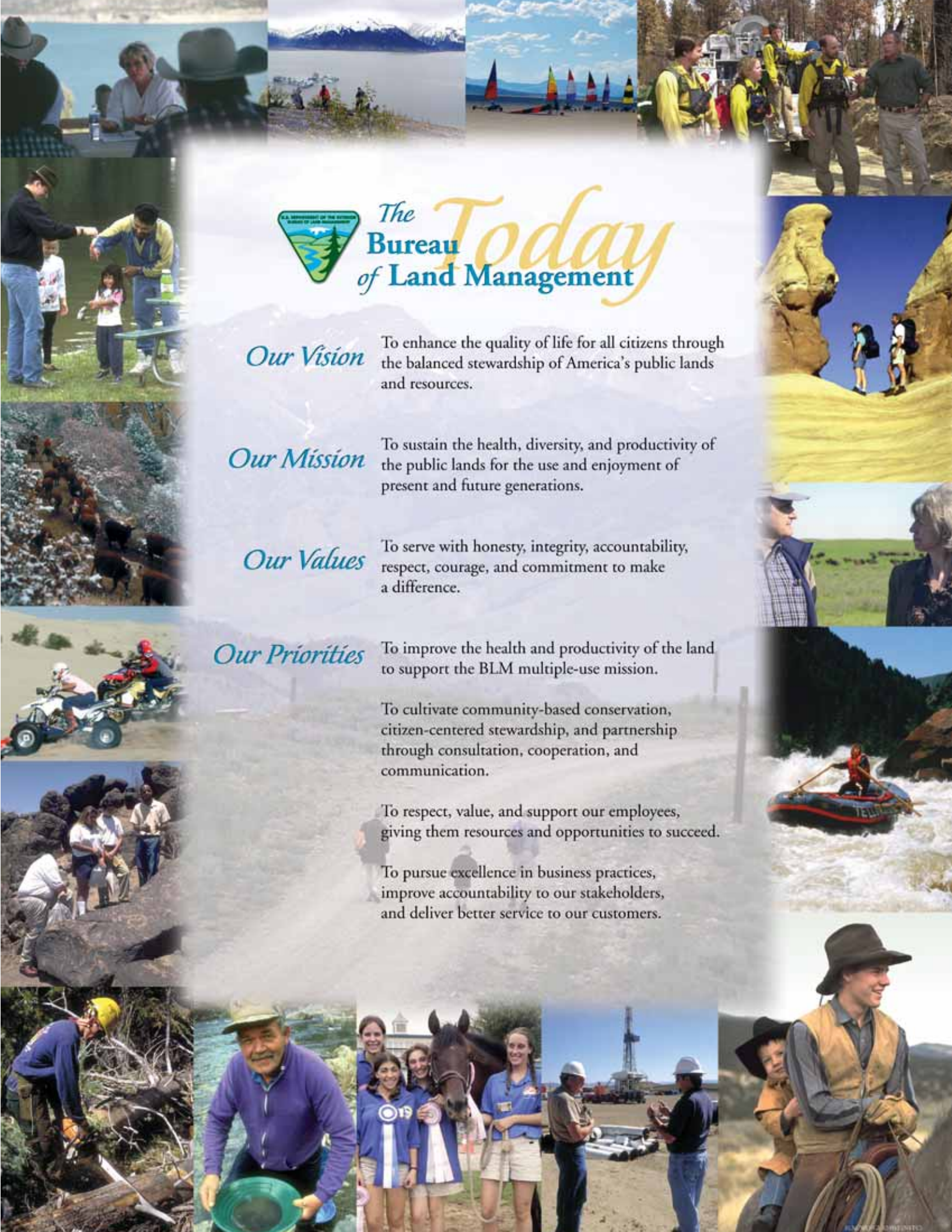
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The Bureau of Land Management *Today*

Our Vision

To enhance the quality of life for all citizens through the balanced stewardship of America's public lands and resources.

Our Mission

To sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

Our Values

To serve with honesty, integrity, accountability, respect, courage, and commitment to make a difference.

Our Priorities

To improve the health and productivity of the land to support the BLM multiple-use mission.

To cultivate community-based conservation, citizen-centered stewardship, and partnership through consultation, cooperation, and communication.

To respect, value, and support our employees, giving them resources and opportunities to succeed.

To pursue excellence in business practices, improve accountability to our stakeholders, and deliver better service to our customers.

